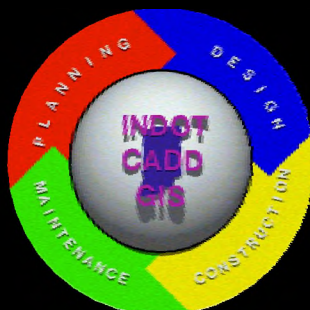
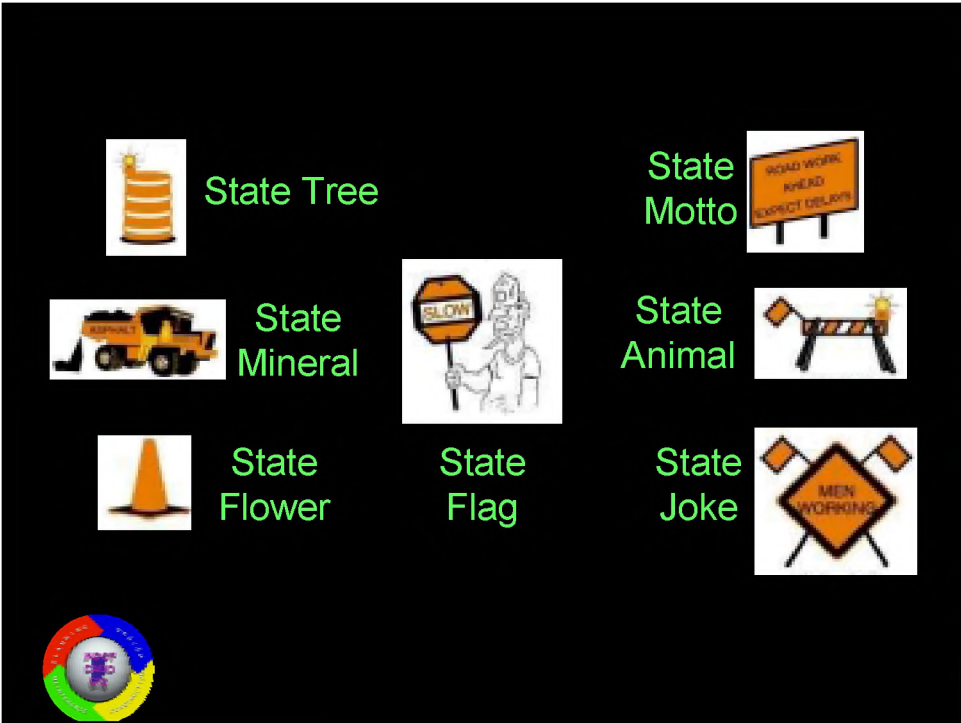


INDOT CAD Implementation and Migration



C. Anthony Elliott
Applications Consultant
Bentley Transportation







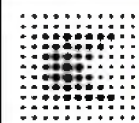
- Local Indianapolis Office
- GDS experience
- Previous INDOT experience





GE Industrial Systems

- **Midwest MVAR**
- **DOT experience**

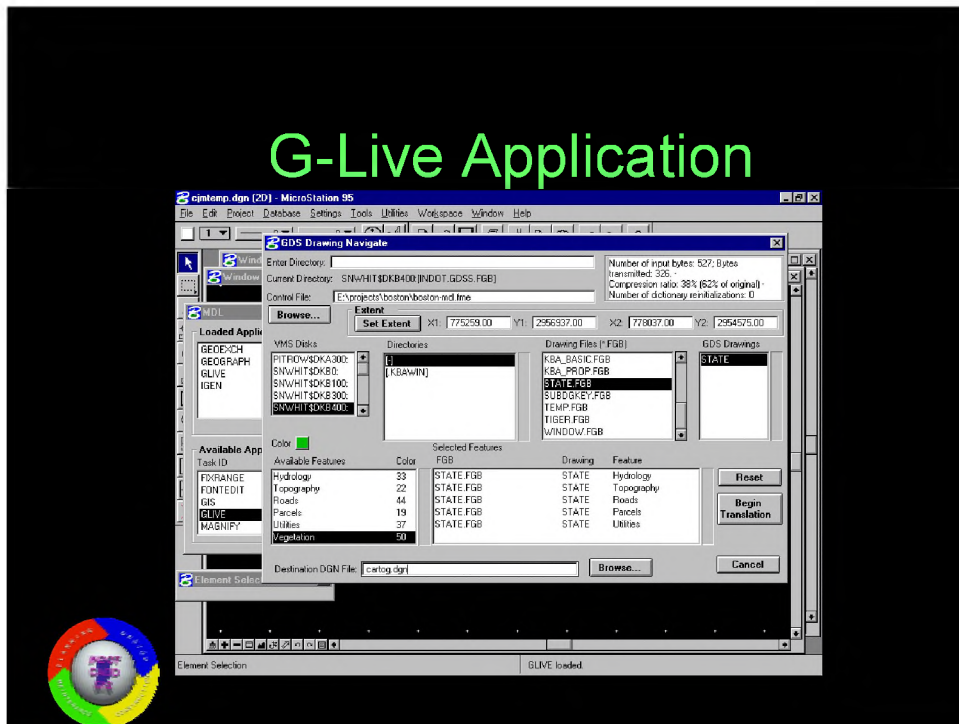


kinetic solutions

- **GDS experience**
- **Programming experience**
- **Database experience**
- **G-Live (GDS graphic data translator)**



G-Live Application



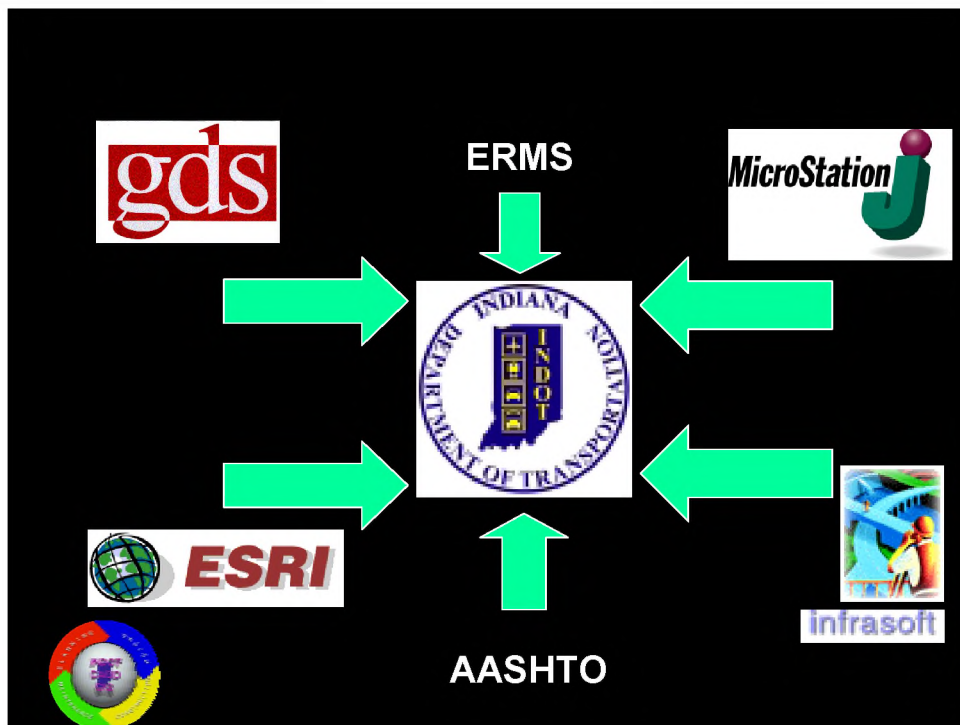
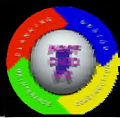
- Indianapolis office
- Previous INDOT experience
- Documentation staff





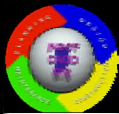
infrasoft

- MOSS existing civil design software
- MXRoad – Windows version
- 3 D Modeling of Strings



Lots of Software

- GDS - Legacy CAD system
- MOSS/MXRoad - Legacy Design Software
- MicroStation J - New CAD software
- ESRI - New GIS Software
- ERMS - Electronic Records Mgmt. System
- AASHTO - TRNSPort and SPMS



Lots of Software

- GDS - 150 CADD users
- MOSS/MXRoad - 30 plus users
- MicroStation J - 207 user licenses
- Descartes - 5 user licenses
- ESRI - Various quantities
- ERMS – Proof of Concept

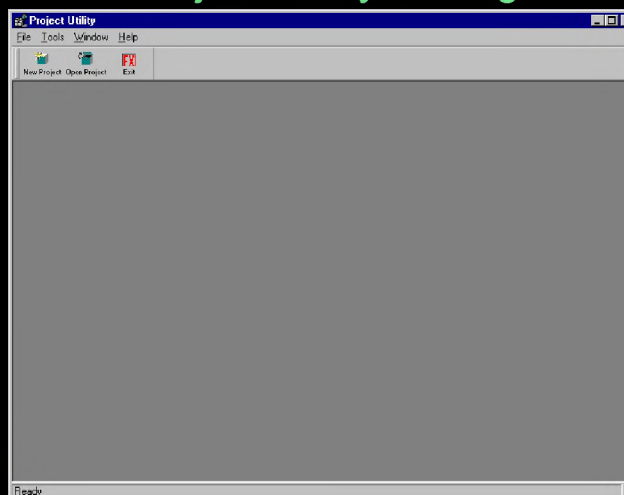


New Applications

- Project Utility Manager
- “Smart” Indexer
- Extensive Use of Settings Managers
- Site Line Analyzer
- Automated Plan/Profile Creation



Project Utility Manager



Project Utility Manager

Project Utility

File Tools Window Help

New Project Open Project Exit

Retrieve Save Display Map Print Close

New Project

Design Unit: [Design 1] Project Type: [In-House Project]

Code	Project Type
FRP	Consultant Review Project
IHP	In-House Project
LPA	Local Project Assistance

Units: Metric 2D Imperial 2D Metric 3D Imperial 3D

District: [] Section ID: []

Des Number: [] Road: [] Year of Letting: 0000

Comments: []

Directory Structure: []

Ready



Project Utility Manager

Project Utility

File Tools Window Help

New Project Open Project Exit

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New Project

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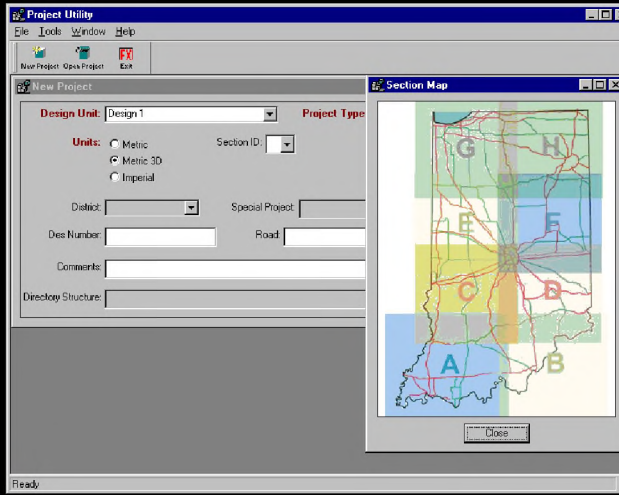
Comments: []

Directory Structure: []

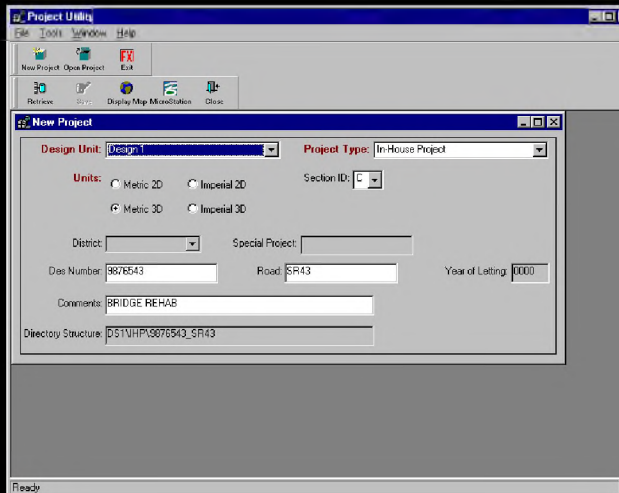
Ready



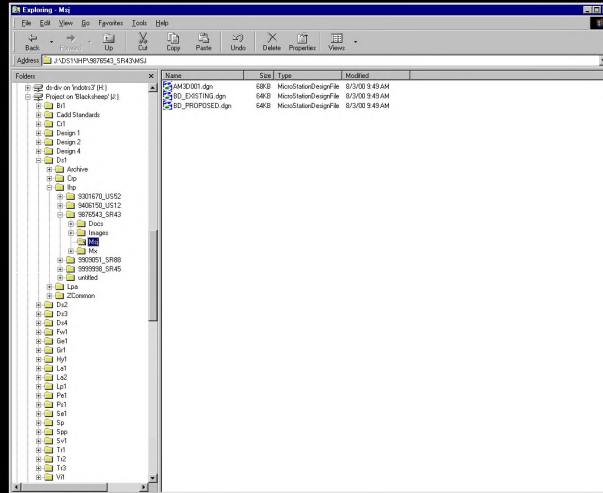
Project Utility Manager



Project Utility Manager



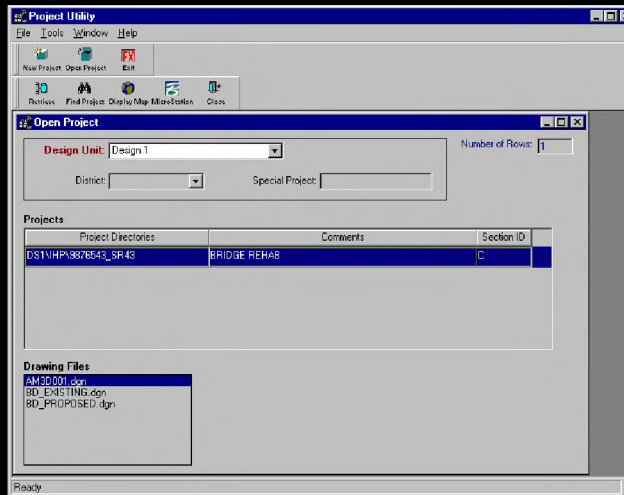
NT Directory Structure



Project Utility Manager



Project Utility Manager



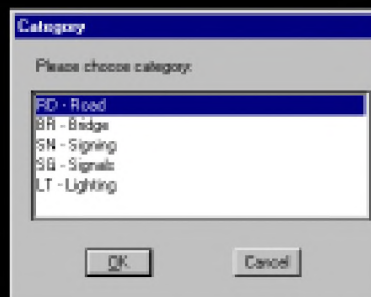
"Smart" Indexer

- Develop standard naming convention for plan set sheets. Utilized by ERMS document management system.



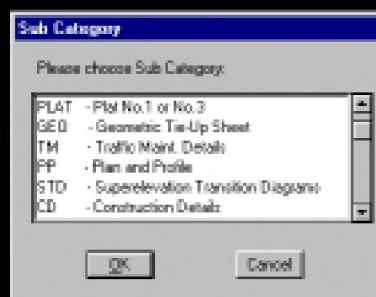
“Smart” Indexer

- User executes a MicroStation macro to create DGN file with all displayed reference files. User selects drawing category.



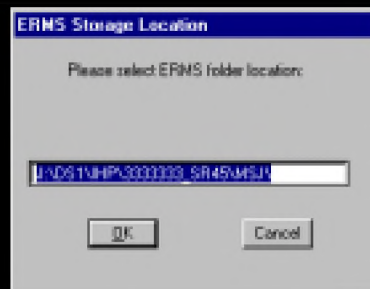
“Smart” Indexer

- User selects sub-category of drawing type.



“Smart” Indexer

- User selects the location of the ERMS vault directory.



“Smart” Indexer

- DGN created and placed into the ERMS vault.

9902117_SR45.RD.CD.001.DGN



“Smart” Indexer

Plan Descriptor List			
Category Code	Sub Category Code	Description	Example
			Prefix = Des # Suffix = File Extension
RD		Road	
	TITLE	Title Sheet	RD.TITLE.001
	INDEX	Index and General Notes	RD.INDEX.001
	TCS	Typical Cross Section	RD.TCS.001
	PLAT	Plat No. 1 or No. 3	RD.PLAT.001
	GEO	Geometric Tie-Up Sheet	RD.GEO.001
	TM	Traffic Maintenance Details	RD.TM.001
	PP	Plan and Profile	RD.PP.001
	STD	Superelevation Transition Diagrams	RD.STD.001
	CD	Construction Details	RD.CD.001
	ID	Intersection Detail	RD.ID.001
	SED	Spot Elevation Detail	RD.SED.001
	CHD	Channel Detail	RD.CHD.001
	GEOD	Geometric Detail	RD.GEOD.001
	ROWD	Right-of-Way Detail	RD.ROW.001
	GD	Grading Detail	RD.GD.001
	DD	Drainage Detail	RD.DD.001
	ECD	Erosion Control Detail (plan view)	RD.ECD.001
	RWD	Retaining wall Detail	RD.RWD.001
	WMD	Wetland Mitigation Detail	RD.WMD.001
	TDSN	Traffic Detail Signs (where separate signing plans are not required)	RD.TDSN.001
	TDSG	Traffic Detail Signals	RD.TDSG.001
	TDLT	Traffic Detail Lighting (where separate lighting plans are not required)	RD.TDLT.001
	TDFM	Traffic Detail Pavement Markings	RD.TDFM.001
	MT	Miscellaneous Tables	RD.MT.001
	AT	Approach Table	RD.AT.001
	UT	Undertrain Table	RD.UT.001
	GST	Guarail Summary Table	RD.GST.001
	SDT	Structure Data Table	RD.SDT.001
	PMS	Pipe Material Sheet	RD.PMS.001
	CS	Cross Sections	RD.CS.001

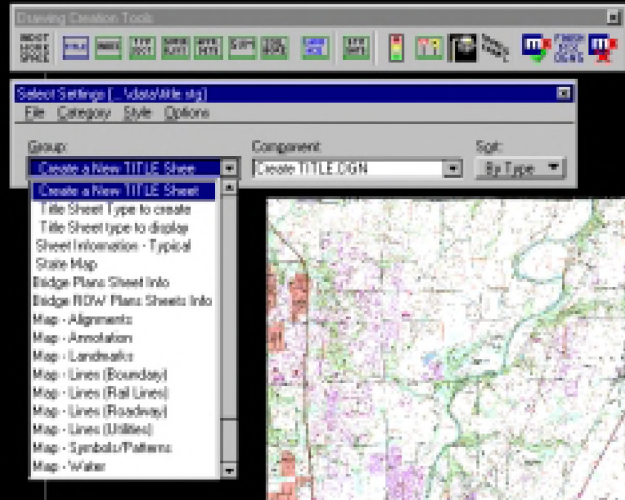


“Smart” Indexer

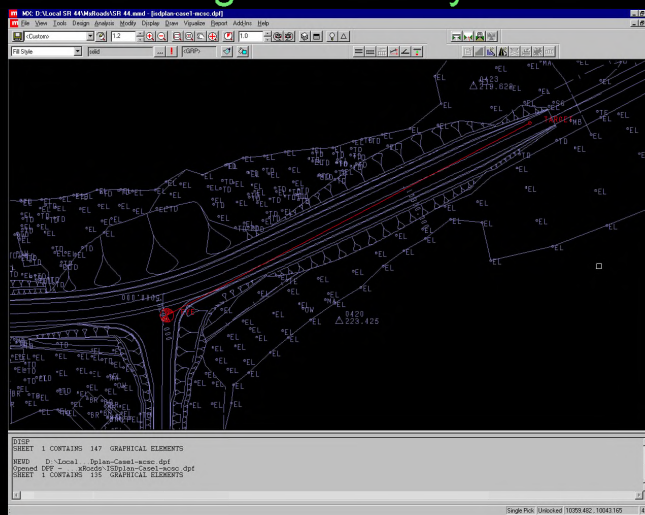
- Create “smart” index listing of created DGN’s
- Use database to generate drawing list
- User places the finished list on INDEX drawing



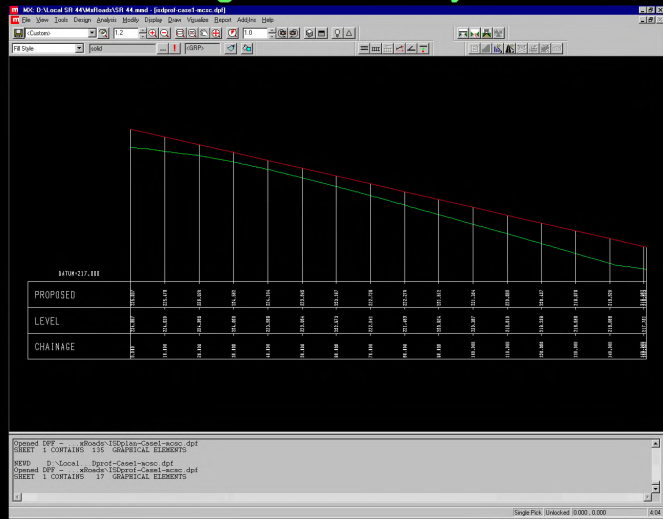
Extensive Settings Managers



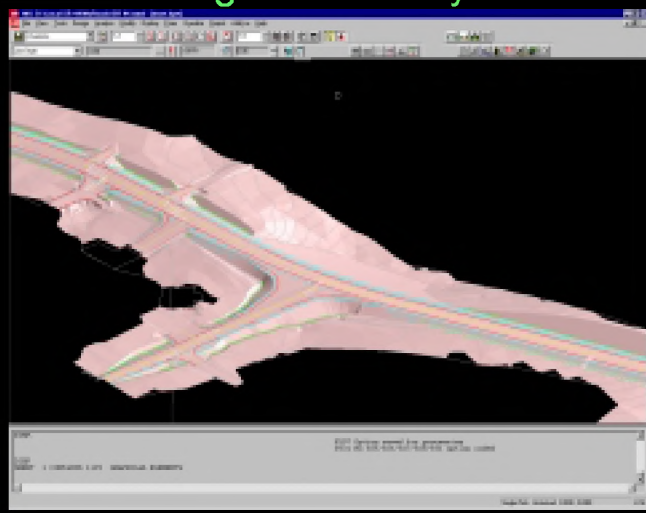
Sight line Analyzer



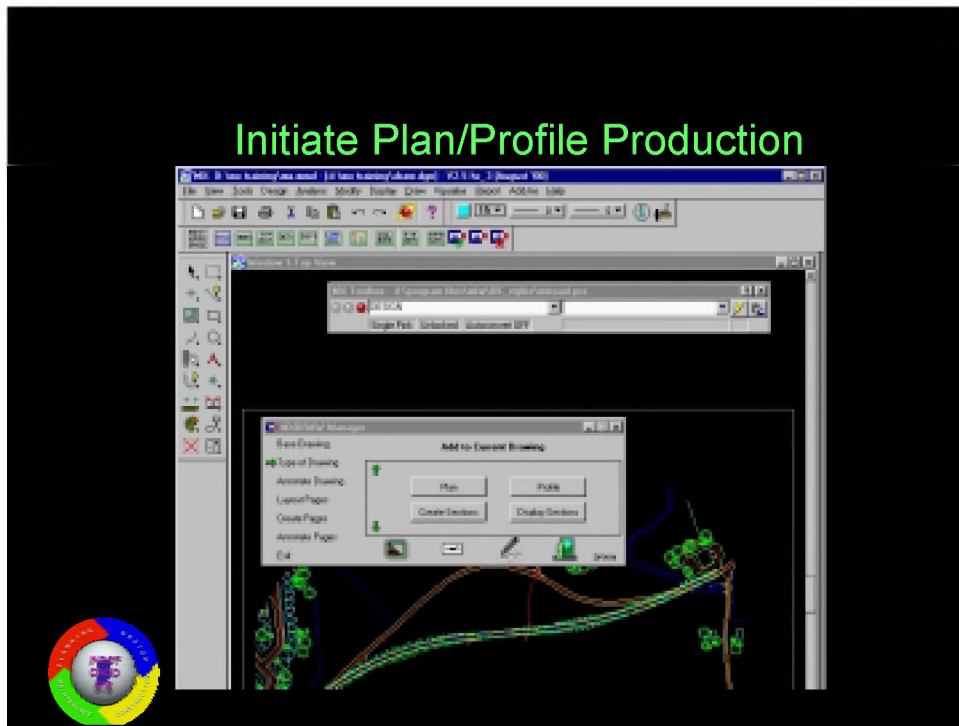
Sight line Analyzer



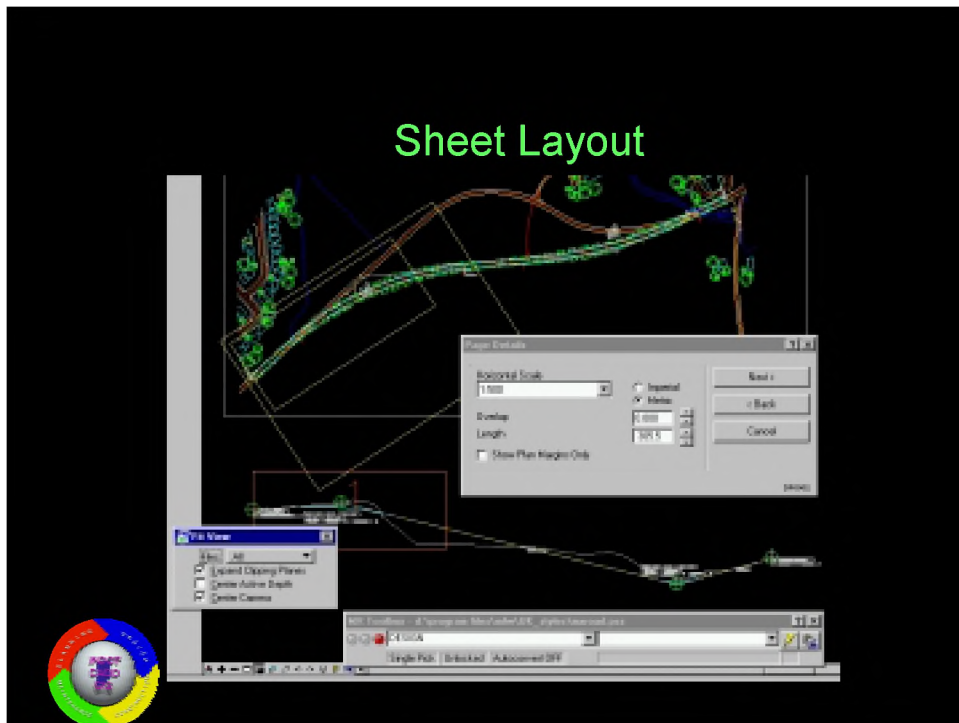
Sight line Analyzer



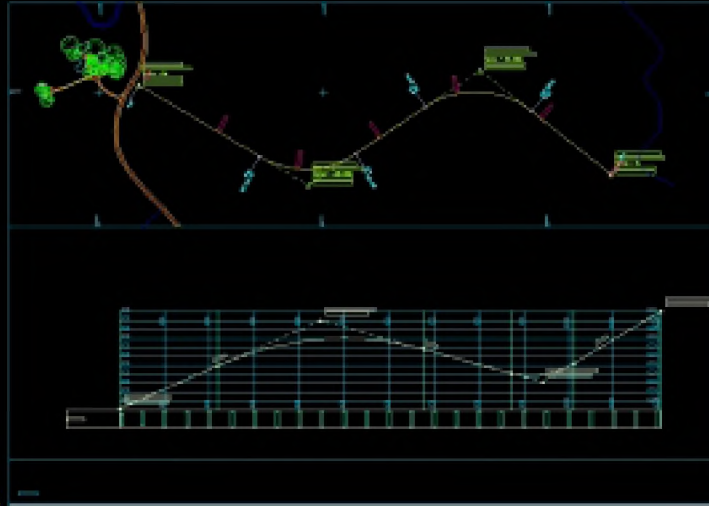
Initiate Plan/Profile Production



Sheet Layout



Production Plan/Profile



Integrity of Model

